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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/637,086	08/01/2003	Karen M. Taminger	MSC-23518-1	9092
24957	7590	07/25/2006	EXAMINER	
NASA JOHNSON SPACE CENTER MAIL CODE HA 2101 NASA RD 1 HOUSTON, TX 77058			RAO, G NAGESH	
			ART UNIT	PAPER NUMBER
			1722	

DATE MAILED: 07/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/637,086	Applicant(s) TAMINGER ET AL.	
	Examiner G. Nagesh Rao	Art Unit 1722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-8, 11-15, 19-21, 23-30, 32-37, 43-44, 47-50, 53, 55-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continuation of Disposition of Claims: Claims pending in the application are 4-8, 11-15, 19-21, 23-30, 32-37, 39-40, 43-44, 47-49, 50-53, 55-58.

Election/Restrictions

- 1) Applicant's election without traverse of claims 1-58 in the reply filed on 2/27/06 is acknowledged.

Claim Rejections - 35 USC § 112

- 2) The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 4 and 56-58 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Examiner has noted applicants amended claims and appreciate the distinction made in overcoming the prior art. However because of the "negative limitation" put forth on the amended claims, there needs to be support for this feature in the specification. Unfortunately the specification as the examiner has gone through does not support that specific feature as being apart of the apparatus and functionality of claimed device. Therefore the amended claims cannot be allowed

full consideration without support from the specification. If applicant finds support please let examiner know, so that it can be reconsidered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
- 3) Claims 4-8, 11-15, 19-21, 23-30, 32-37, 43-44, 47-50, 53, 55-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mahoney (US Patent No. 4,762,975) in view of Sterett (US Patent No. 5,787,965).

Mahoney 975 pertains to an apparatus system capable of forming a 3-d object via a sequential deposition of wire feedstock comprising the following as can be explicitly seen in Figures 3-5 and understood in the specification, a sealed container capable of maintaining a vacuum environment (36), automated wire feed mechanism (38), an electron beam subsystem (See Abstract and Col 2 Lines 50-54) which is understood by the specification to have to occur within the contained system and would be capable of operating at a variety of wattage and voltage expectations, a vacuum subsystem comprised of a vacuum pump and vacuum control for sustaining the vacuum environment (40 and 44), and a control console (46) for containing the vacuum and electronic controls.

Mahoney 975 however fails to teach specifically a positioning subsystem, an instrumentation subsystem, and a power distribution subsystem. Although it would be inherent for Mahoney 975 to include these subsystems, it does not specifically discuss these traits in relation to the apparatus.

Sterett 965 pertains to an apparatus for creating a free-form three-dimensional article using a layer by layer deposition. As shown in Figures 1-1c there is a chamber (15) which can be comprised of a vacuum chamber that would inherently be sealed and equipped with a work station positioning system (40), control means (54) which is comprised of a computer software system capable of

operating the functions of the device in Sterett 965, the teachings of incorporating a laser system (Col 11 Lines 43-49), and a power system that aids in the operation of the device which would logically follow, considering it would be an inherent aspect of the invention in order to electrically operate the systems comprised within the apparatus (Col 14 Lines 20-30) furthermore the apparatus as seen in Figure 1 shows a framed device with a wall being formed as a result of the frame, and it would be inherent that the wall could be comprised of a material such as metal, ceramic, or polymer confluence of materials, as such Sterett 965 teaches that various containment means for enclosing the work space include a flexible shroud, for example PVC (a type of polymer matrix composite) and the like being mounted onto a metal frame (Col 7 Lines 47-60) which by the way is in the shape of rectilinear form (See Figure 1).

It would be obvious at the time of the invention to one with ordinary skill in the art to understand given the background of Mahoney 975 attempting to solve the deposition problems that can be resulted from a molten metal droplet system with that of a wire feed system, and furthermore automate the system in controlling the environment and processing parameters set forth, it would make sense that both Mahoney 975 and Sterett 965 are seen as analogous art. The teachings of Sterett 965 enforce the desire to incorporate a positioning, instrumentation, and power

distribution subsystems in order to optimize the capabilities and apparatus conditions set forth by Mahoney 975.

Response to Arguments

4) Applicant's arguments filed 6/28/06 have been fully considered but they are not persuasive. Examiner notes amended changes and arguments put forth and fully appreciates applicant's arguments for distinction of the prior art from the currently claimed invention. However the negative limitation of language put forth requires support from the specification for patentability. Examiner invites applicant to put forth where in the specification such limitation can be found, since examiner was unable to do so.

Conclusion

5) Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is

filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to G. Nagesh Rao whose telephone number is (571) 272-2946. The examiner can normally be reached on 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on (571)272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GNR



ROBERT DAVIS
PRIMARY EXAMINER
GROUP 1300 / 1200

7/21/06